

MARITIME SAFETY COMMITTEE
102nd session
Agenda item 22

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ANY OTHER BUSINESS

Interference with the United States' Global Positioning System (GPS) and other Global Navigation Satellite Systems (GNSS)

Submitted by the United States

SUMMARY

Executive summary: The document identifies the urgent issue of deliberate interference with GPS and GNSS signals throughout the world

Strategic direction, if applicable: 5

Output: Not applicable

Action to be taken: Paragraph 9

Related documents: NAV 48/18/1 and NAV 49/13/1

Introduction

1 The United States takes the opportunity to inform the Committee of the urgent issue of deliberate interference with the United States' Global Positioning System (GPS) and other Global Navigation Satellite Systems (GNSS) signals around the world.

2 GNSS signals are essential to safe and efficient navigation and an integral component of all maritime operations. Interfering with these signals places the efficiency and more importantly, the safety of maritime operations at risk and jeopardizes the safety of life at sea.

3 There have been documented reports of incidents of deliberate interference with GNSS affecting ships in the Black Sea and Eastern Mediterranean in the period of 2016 to 2018. Vessels navigating in international waters and in innocent passage through territorial seas were impacted by these intentional acts of interference. These serious events demonstrate a deliberate effort to block and deceive GPS and other GNSS signals thereby affecting maritime operations and compromising the safety of navigation and the maritime environment.

4 Beyond these well-documented incidents, additional reports show a broad pattern of deliberate GNSS interference across the globe. For example, researchers detected GNSS interference on every leg of a cargo ship's year-long operations between Europe and the Far East.* Even more recent vessel reports supported by AIS data show that deliberate interference using targeted radio transmissions continues to occur.

5 Similar discussions of GPS interference were raised during NAV 48 and NAV 49 highlighting a persistent issue that requires the attention and action by all Member States.

6 In addition to degrading safety of life at sea, these interference transmissions contravene International Telecommunication Union Radio Regulation 19.2 that stipulates "All transmissions with false or misleading identification are prohibited."

Conclusion

7 In light of the above and in the interest of safety of maritime operations and the safety of life at sea, the United States proposes a circular be issued to Member States to:

- .1 remind Member States of their responsibility to refrain from interfering with GPS and GNSS signals, except when required for security reasons;
- .2 request Member States to take actions to prevent unauthorized transmissions on recognized satellite navigation system frequencies; and
- .3 request Member States to issue warning notices or advisories to mariners specifying the time periods and areas impacted by any known interferences to minimize negative effects upon maritime operations.

8 To assist the Committee, an annex is provided with draft language for a circular.

Action requested of the Committee

9 The Committee is invited to consider the conclusion in paragraph 7 and take action, as appropriate.

* <https://www.gpsworld.com/year-long-ocean-cruise-finds-gnss-interference-everywhere/>

ANNEX

DRAFT MSC CIRCULAR

**DELIBERATE INTERFERENCE WITH THE UNITED STATES'
GLOBAL POSITIONING SYSTEM (GPS) AND OTHER GLOBAL NAVIGATION
SATELLITE SYSTEMS (GNSS)**

1 The Committee, at its 102nd session (13 to 22 May 2020), considered the deliberate interference with Global Navigation Satellite Systems (GNSS) and the United States' Global Positioning System (GPS), as reported in various locations throughout the world. The Committee recalled that satellite navigation system signals are vulnerable to deliberate interference intended to disable or deceive signal receivers and integrated navigational and communications equipment.

2 The Committee noted that these incidents of deliberate interference have been reported in a number of locations and evaluated by certain organizations having specialized equipment and expertise necessary to analyse the cause and impacts to maritime shipping.

3 The Committee further noted that the deliberate interference with satellite navigation system signals poses a substantial risk to the safety of navigation, the safety of life and property, and the protection of the marine environment.

4 The Committee reminded Member States of their responsibility to refrain from interfering with GPS and GNSS signals.

5 The Committee urged Member States to:

- .1 take actions necessary to minimize interference coming from their territory, as required under the International Telecommunication Union Radio Regulations;
- .2 consider issuing warning notices or advisories to mariners specifying the time periods and areas impacted by any known interferences to minimize negative effects upon maritime operations; and
- .3 consider enacting measures that prevent unauthorized transmissions on recognized satellite navigation system frequencies.

6 Member States and organizations in consultative status with IMO are invited to bring this circular to the attention of shipowners, ship operators, ships' masters, and all other parties concerned.